

REMARKS

Reconsideration of the above-identified patent application in view of the present amendment is respectfully requested.

The Office Action objected to the drawings for failing to show the cylindrical center part 4.1 ending in an area of the equator. This language has been deleted from claim 14. Therefore, this amendment overcomes this objection to the drawings.

The Office Action also objected to the drawings for failing to comply with 37 CFR 1.84(p)(4) because reference number "4" designates the ring without end 4.3 bent radially inwardly (Fig. 1) and the ring with end 4.3 bent radially inwardly (Fig. 2). This objection to the drawings is respectfully traversed.

Thirty-seven CFR 1.84(p)(4) states, "[t]he same part of an invention appearing in more than one view of the drawings must always be designated by the same reference character, and the same reference character must never be used to designate different parts." With regard to reference character "4" of Figs. 1 and 2, it is clear from the description of the invention on pages 3 and 4 of the specification that the metal ring 4 of Figs. 1 and 2 is the same part. In Fig. 1, the end segment 4.3 of the metal ring 4, prior to being bent radially inwardly, provides a guide for inserting the bearing shell 3 into the joint housing 2. (See description beginning on page 3 at line 25). The description of the invention teaches that the end segment 4.3, after the bearing shell 3 is inserted

into the joint housing 2, is bent radially inwardly to secure the position of the bearing shell 3 in the joint housing. (See description beginning on page 4 at line 4). Thus, reference character 4 illustrates the same part, i.e., the metal ring, in both Figs. 1 and 2 and therefore, complies with 37 CFR 1.84(p)(4).

It is respectfully suggested that modifying the reference numbers of the metal ring 4 in Figs. 1 and 2 would create confusion to the reader of the present application. Suppose that the joint pin 1 would have been shown as tilted relative to the joint housing in Fig. 2. The description of the present invention clearly teaches that the joint pin 1 may tilt relative to the joint housing. Thus, if the joint pin were illustrated as tilted, the joint pin would still have been designated as reference character 1. In a similar way, the metal ring is designated as reference character 4 in both Figs. 1 and 2, with end segment 4.3 in a first state (unbent) in Fig. 1 and in a second state (bent) in Fig. 2. Thus, withdrawal of this objection to the drawings is respectfully requested.

With regard to the claims, this amendment amends claims 11, 14, 20, 22, 23, and 26 and adds new claim 27. The amendment to claim 22, which was indicated as allowable, rewrote claim 22 in independent form. Similarly, the amendment to claim 23, which was indicated as allowable, rewrote claim 23 in independent form. Thus, allowance of claims 22 and 23 is respectfully requested.

The Office Action rejected claims 11, 14 and 26 as obvious under 35 U.S.C. §103 "over Hamilton, 1,260,144, in view of Dorr et al., 5,782,573." This rejection is improper and is confusing to the Applicant. Specifically, Hamilton is U.S. Patent No. 3,384,396, while number 1,260,144 corresponds to a British patent to Baker et al. Both Hamilton and the British reference are of record. In explaining the rejection of claim 11, the Office Action cites both "Hamilton" and "the British patent." Thus, the rejection of claims 11, 14, and 26 is unclear.

Although the rejection of claim 11 is unclear, claim 11 has been amended in order to further prosecution of the present application. Claim 11, as amended, patentably defines over Hamilton, U.S. Patent No. 3,384,396, in view of Dorr et al. and over the British patent, 1,260,144, in view of Dorr et al.

Claim 11, as amended, recites a metal ring having a radially outwardly angled flange that is embedded in the joint housing and a radially inwardly bent end segment that abuts the open end portion of the bearing shell and secures the bearing shell within the joint housing. None of Hamilton, the British patent, and Dorr et al. teaches or suggests a metal ring having the features recited in claim 11.

Specifically, Hamilton fails to teach or suggest that lip 28a of cap 28 abuts an open end portion of bushing 14. Fig. 3 of Hamilton clearly shows that the open end portion of bushing 14 is spaced apart from cap 30, on a side of cap 30 opposite lip 28a. Dorr et al. also fails to teach or suggest these

features of claim 11. Therefore, claim 11 patentably defines over Hamilton in view of Dorr et al. and allowance of claim 11 is respectfully requested.

The British patent fails to teach or suggest a metal ring having both a radially outwardly angled flange that is embedded in the joint housing and a radially inwardly bent end segment that abuts the open end portion of the bearing shell and secures the bearing shell within the joint housing. Specifically, the British patent fails to teach or suggest that the J-shaped sleeve of Fig. 3 includes a radially outwardly angled flange that is embedded in the joint housing. Dorr et al. also fails to teach or suggest this feature of claim 11. Therefore, claim 11 patentably defines over the British patent in view of Dorr et al. and allowance of claim 11 is respectfully requested.

Claims 14, 18, and 26 depend from claim 11 and are allowable for at least the same reasons as claim 11. Additionally, claims 14, 18, and 26 are allowable for the specific limitations of each claim.

Specifically, claim 26 recites that the open end portion of the bearing shell protrudes outwardly of the plastic joint housing and is secured relative to the joint housing by the radially inwardly bent end segment. Fig. 2 of the present application supports the limitations of claim 26. None of Hamilton, the British patent, and Dorr et al. teaches or suggests an open end portion of a bearing shell protruding outwardly of the joint housing and being secured relative to the joint housing by a radially inwardly bent end segment of a

metal ring. Therefore, allowance of claim 26 is respectfully requested.

With regard to claim 20, claim 20 has been amended to patentably define over Graham, U.S. Patent No. 2,424,455. Claim 20, as amended, recites a joint housing having a closed end and an open end. Claim 20 further recites that the metal ring protrudes from an opening in the open end of the joint housing and forms a passage through which the bearing shell is received. The metal ring also has an end segment that is bent radially inwardly after the bearing shell is received in the joint housing for securing the bearing shell within the joint housing. Graham fails to teach or suggest these features of amended claim 20.

In Graham, the housing 10 has two open ends and no closed end. The housing 10 receives a casing 12 that has an end wall 12d that extends radially inwardly. An open end of the casing 12 is located opposite the end wall 12d and near rim 12c. As Fig. 5 of Graham illustrates, hemispherical socket liners 14 for supporting a ball end 15a of a stud are inserted into the casing 12 through the open end, opposite the end wall 12d. A closure disk 16 secures the hemispherical socket liners 14 in the housing 10. Since Graham fails to teach or suggest the features of claim 20, allowance of claim 20 is respectfully requested.

Claim 21 depends from claim 20 and is allowable for at least the same reasons as claim 20. Additionally, claim 21 is allowable over Graham for reciting that the metal ring includes a radially outwardly extending flange portion that is

embedded in the plastic joint housing. In Graham, flange 12b of the casing 12 is not embedded in a plastic housing. Thus, allowance of claim 21 is respectfully requested.

With regard to claim 25, the Office Action rejected this claim as being obvious over Pazdirek et al., in view of Graham, and Kindel, U.S. Patent No. 3,530,495. This rejection is respectfully traversed.

As motivation for combining Pazdirek et al. and Graham, the Office Action states that it would have been obvious to one of ordinary skill in the art to modify the center part 28 of the strengthening element 26 of Pazdirek et al., based upon the teachings of Graham, to have a diameter that corresponds to the diameter of the bearing shell 36 so as to allow the bearing shell to fit snugly inside the ring. However, this suggested modification to the strengthening element 26 of Pazdirek et al. is contrary to the specific teachings of Pazdirek et al.

Specifically, Pazdirek et al. teaches that the strengthening element 26 includes holes 30 through which thermoplastic material passes so that the strengthening element 26 is anchored securely in place in the body 12 of the joint link 10 with thermoplastic material located on both sides of the strengthening element 26. (Pazdirek et al., Col. 3, lines 63-67). As a result, according to the intent of Pazdirek et al., the force necessary to pull the ball 22 out of the body 12 is substantially increased. (Pazdirek et al., Col. 4, lines 50-52). Thus, one of ordinary skill in the art would not be motivated to modify Pazdirek et al. so that

thermoplastic material is not located on an interior surface of the strengthening element 26, as is suggested in the Office Action. Since Pazdirek et al. teaches away from this suggested modification, allowance of claim 25 is respectfully requested.

Claims 16 and 17 depend from claim 25 and are allowable for at least the same reasons as claim 25.

New claim 27 recites a ball-and socket joint comprising a joint pin provided with a joint ball. The ball-and-socket joint also comprises a plastic joint housing into which is inserted a bearing shell for rotatable and tiltable support of the joint ball. A metal ring positively locks the bearing shell within the joint housing. The metal ring has a radially outwardly angled flange that is embedded in the joint housing. The metal ring has a radially inwardly bent segment located in an area of the opening in the joint housing that is provided for the passage of the joint pin and the radially inwardly bent segment secures a position of the bearing shell within the joint housing. An inside diameter of a cylindrical center part of the metal ring corresponds to an outside diameter of the bearing shell.

Claim 27 patentably defines over Hamilton, the British patent, Dorr et al., Graham et al. and Pazdirek et al., whether taken singularly or in combination. Specifically, none of the references teaches or suggests a metal ring having a radially outwardly angled flange that is embedded in a plastic joint housing, a radially inwardly bent segment located in an area of the opening in the joint housing that is

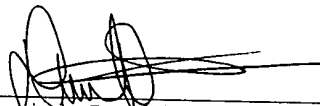
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provided for the passage of the joint pin and which secures a position of the bearing shell within the joint housing, and an inside diameter of a cylindrical center part of the metal ring that corresponds to an outside diameter of the bearing shell. Since none of the references teaches or suggests a metal ring having the features of claim 27, allowance of claim 27 is respectfully requested.

In view of the foregoing, it is respectfully submitted that the above-identified patent application is in condition for allowance, and allowance of the above-identified patent application is respectfully requested.

Please charge any deficiency or credit any overpayment in the fees for this amendment to our Deposit Account No. 20-0090.

Respectfully submitted,

  
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